

U.S. Antarctic Marine Living Resources Program

2013/2014 Weekly Field Reports

Cape Shirreff, Livingston Island

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Science Report

Seabirds

1. Of the chinstrap penguins in the reproductive study (total = 100 nests) 77% have two eggs, 17% have only one egg, 4% have not yet laid, and 2% have failed. Of the gentoo penguins in the reproductive study (total = 50 nests), 100% have initiated clutches, with 66% having two eggs, 24% with one egg, and 10% of nests have failed.
2. We have continued to re-sight known-aged penguins. Thirty-six known-aged gentoo penguins have initiated clutches, 74% have two eggs, 20% have one egg and 6% of these nests have failed. There are 36 known-aged chinstraps currently breeding, 80.5% have two eggs, 16.5% have one egg, and 3% have failed so far.
3. On 28 November we weighed and measured eggs and adult weights from a sample of 50 chinstrap penguin nests. These data currently await analysis.
4. On 29 November we conducted the annual gentoo nest census. The numbers from this census also await analysis.
5. On 1 December we began the annual chinstrap nest census. We will finish the survey on 2 December.
6. Many brown skuas have begun building nest bowls; however, no eggs have been seen yet.
7. There are currently 27 gull nests with eggs around the Cape.
8. This week we took advantage of a weather window to obtain hexacopter-based aerial coverage of all but one of the penguin colonies. These photographs will be used to obtain nest counts in comparison with simultaneous ground counts performed by the AMLR seabird team. All hexacopter systems performed well, and photograph resolution looks superb.

Pinnipeds

9. At the last census of fur seal study beaches on 30 November we recorded a total of 107 pups (105 live and 2 cumulative dead). This is approximately 45% fewer pups than a survey on 1 December last year. Total pup production estimates, however, will not be finalized until early January after all pups are born.



10. We began perinatal fur seal captures for attendance and foraging behavior on 1 December. We captured one female on that day as we refined our technique, trained new members of the capture team, and searched for our groove. She was outfitted with a VHF radio transmitter for CCAMLR trip duration protocol. This female and her pup will also be used for inter-annual comparisons of arrival and pup mass indices.
11. Our VHF receiving stations (2) are recording and we downloaded our first data from them. Thus far the female we have instrumented has not departed on her first trip to sea.
12. Thus far only 19.0% of our tagged female population have returned to Cape Shirreff (i.e. 26 of the expected 137 present last year).
13. One of the tagged females (460) from our marked population has been seen suckling two pups. We suspect they are twins and will collect DNA from them to confirm this once she leaves on her first trip to sea.
14. At the last phocid census of the Cape we had 114 elephant seals, an increasing number, as juveniles arrive to molt. We had a total of 41 Weddell seals. We saw no leopard, Ross, or crabeater seals.

Weather

15. It was a cool and windy Thanksgiving week. Mean wind speed was 15.7 mph with maximum of 61 mph. Winds were mostly from the west (63.1%). For the second year in a row through early December, the temperatures have averaged below 0° C. This was the fourth week of below zero mean weekly temperature (-0.7° C). The high temperature for the week was 3.1° C and the low was -2.7° C. Total precipitation this week was 0.07 inches. Sunrise and sunset are now 03:12 and 22:25. Mean daily solar radiation this week was 20,820 W/m².

Camp

16. The Cape is still mostly covered in snow. Several storms have left drifts at camp higher than when we arrived, although snow levels are down around the Cape, in general.
17. We have created a new supplemental battery system at our work station so that we can keep a laptop running R code for at least 18 hours straight (without running the gasoline generator).



18. Our fresh water supply remains frozen. We are still working on our third barrel which was brought into the main camp to thaw, and supplementing with snow melt.
19. Although delayed by two days due to pressing science needs, our Thanksgiving was joyous and delicious. We had two smoked turkeys (one with Greek seasoning, one with BBQ), corn pudding, cauliflower pie, dressing, sweet potato casserole, mashed potatoes, and from-scratch pumpkin pie among other things....we're still digesting.

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